Remarks

Entrance of this amendment and allowance of all remaining claims are respectfully requested. Claims 1-6, 9-14 & 17-20 remain pending.

By this paper, independent claims 1, 9 & 17 are amended to more particularly point out, and distinctly claim certain aspects of the present invention. Specifically, these claims are respectively amended to characterize the previous separately recited protocol of cancelled dependent claims 7, 8, 15 & 16 (as appropriate). Further, the independent claims are amended to characterize the *posted receive* as being disposed within *a posted receive data structure at the receiver*, and to recite that a matching posted receive with the message indicates that the receiver is ready to process the message. Support for the amendments presented can be found throughout the application as filed. For example, reference FIGS. 4A-5, as well as the discussion thereof at paragraphs [0036] – [0051] of the specification. No new matter is added to the application by any amendment presented.

In the initial Office Action, original claims 1-20 were rejected under 35 U.S.C. §102(e) as being anticipated by Lebizay et al. (U.S. Patent No. 7,072,352 B2; hereinafter Lebizay). This rejection is respectfully traversed to any extent deemed applicable to the claims presented herewith, and reconsideration thereof is requested for the reasons stated below.

Applicants' recited invention comprises a *receiver implemented protocol* within a message passing communications environment. Applicants' recited protocol includes determining at the receiver whether a message received by the receiver is next in sequence order from a server, the determining using a sequence number of the message, and if not, linking the message to an early arrival data structure and an out of order data structure, in placing the message in an unmatched messages buffer. If the message is determined at the receiver to be next in sequence order from the sender, then Applicants' protocol includes:

- *attempting to match the message with a posted receive in a posted receive data structure at the receiver, in response to the determining indicated that the message is in sequence order, a matching posted receive indicating that the receiver is ready to process the message.*

In Applicants' recited protocol, the received message must be next in sequence order from the sender, using a sequence number, *and* the message *must match a posted receive* in a *posted receive data structure at the receiver*. The second characterization is clearly not taught, suggested or inherent in Lebizay. As recited in Applicants' independent claims, a matching posted receive indicates that the receiver is ready to process the message. There is no discussion in Lebizay of a receiver which employs such a requirement.

In Applicants' invention, a posted receive is a handle which is stored in a posted receive data structure at the receiver to indicate that the receiver is ready to process a particular message once received. Thus, in Applicants' protocol, a message that is received in sequence order from a sender must also match a posted receive in order to be processed. If a matching posted receive does not exist within the receive data structure at the receiver, then Applicants' protocol includes:

- linking the message to an early arrival data structure, in response to a failed attempt to match the message to a posted receive in the posted receive data structure at the receiver.

In Applicants' protocol, the message is linked to an early arrival data structure and an out of order data structure if the sequence number is not the next in sequence order from the sender, and even if the sequence number is the next in order, the message is subsequently linked to an early arrival data structure if the protocol fails to match the message with a posted receive in a posted receive data structure at the receiver, indicating that the receiver is ready to process the message.

In comparison, Lebizay describes a method for inverse multiplexing of unmanaged traffic flows over a multi-status switch network, where the ingress process for each switch handles managed traffic for its switch first, then pulls a single unmanaged traffic packet off the unmanaged traffic queue and processes and transmits the packet. If the received packet is in sequence, then the sequence-checking process sends it on to the output queue. If the received packet is not in sequence, then the packet is placed in a buffer, and the sequence checking process checks the fabric output and the buffer by scanning for the next in sequence packet. (See Abstract of Lebizay.)

Although Lebizay teaches ordering messages using sequencing, there is no teaching or suggestion therein of concurrently requiring matching of messages to posted receives at a receiver. In Lebizay, messages are buffered only until placed in sequence. There is no need or teaching in Lebizay of waiting for a matching posted receive to be placed into a posted receive data structure at the receiver before the message can be further processed. This difference is significant. Applicants used a sequence number to determine whether a message is eligible to be matched, and then matching the message to a posted receive before processing the message. There is simply no teaching of matching per se in FIG. 8 of Lebizay once a sequence number is received in order. Lebizay simply forwards the message once ordered. As such, Applicants respectfully submit that the independent claim submitted herewith patentably distinguish over the applied and known art.

For at least the above-noted reasons, allowance of the independent claims presented is respectfully requested.

The dependent claims are believed allowable for the same reasons as the independent claims, as well as for their own additional characterization.

For example, dependent claims 3, 11 & 18 further recite processing the message, in response to a match between the message and the posted receive, and removing the matching posted receive from the posted receive data structure and deleting the matching posted receive. Since there is no discussion in Lebizay of a posted receive, or of a posted receive data structure at the receiver, there is clearly no teaching or suggestion of the particular protocol recited in these claims wherein a matching posted receive is removed from the posted receive data structure and subsequently deleted with processing of the message by the receiver.

All claims are believed to be in condition for allowance, and such action is respectfully requested.

Should the Examiner have any reservation regarding the patentability of the claims presented, Applicants' undersigned representative respectfully requests the opportunity for an Examiner Interview to discuss the claims in the hope of advancing prosecution of this application.

Respectfully submitted,

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